What is claimed is:

1. A medical device comprising:

a carrier having a surface comprising a polymer; and

a polynucleotide associated with at least a portion of the polymer, wherein the polynucleotide is not present in a cell.

2. The medical device of claim 1 wherein the carrier is an implantable pulse generator.

3. The medical device of claim 1 wherein the polymer comprises a film.

4. The medical device of claim 1 wherein the polymer is a porous polymer.

5. The medical device of claim 4 wherein the porous polymer is a natural porous polymer.

6. The medical device of claim 5 wherein the natural porous polymer is selected from the group consisting of collagen, gelatin, elastin, fibrin, hyaluronic acid, and a glycosaminoglycan.

7. The medical device of claim 6 wherein the glyconsaminoglycan is selected from the group consisting of heparin, heparan sulfate, dermatan sulfate, chondroitin sulfate, and mixtures thereof.

8. The medical device of claim 4 wherein the porous polymer is a synthetic porous polymer.

9. The medical device of claim 8 wherein the synthetic porous polymer is a biodegradable synthetic porous polymer selected from the group consisting of polyglycolic acid, polylactic acid, polydiaxonone, poly(,-caprolactone), polyanhydrides, poly(∃-hydroxybutyrate), poly(ortho esters), poly(amino acids), polyiminocarbonates, and mixtures thereof.

10. The medical device of claim 1 wherein the polynucleotide comprises a coding sequence encoding an antimicrobial peptide.

11. The medical device of claim 1 wherein the polynucleotide is condensed.

12. The medical device of claim 11 wherein the condensed polynucleotide is linked to a receptor ligand.

13. The medical device of claim 1 wherein the polynucleotide is enclosed in a liposome.

14. The medical device of claim 13 wherein the enclosed polynucleotide is linked to a receptor ligand.

15. A medical device comprising:

a carrier having a surface comprising a polymer; and

a cell associated with at least a portion of the polymer, wherein the cell expresses an antimicrobial peptide.

16. The medical device of claim 15 wherein the carrier is an implantable pulse generator.

17. The medical device of claim 15 wherein the polymer comprises a film.

18. The medical device of claim 15 wherein the polymer is a porous polymer.

19. The medical device of claim 18 wherein the porous polymer is a natural porous polymer.

20. The medical device of claim 19 wherein the natural porous polymer is selected from the group consisting of collagen, gelatin, elastin, fibrin, hyaluronic acid, and a glycosaminoglycan.

21. The medical device of claim 19 wherein the glyconsaminoglycan is selected from the group consisting of heparin, heparan sulfate, dermatan sulfate, chondroitin sulfate, and mixtures thereof.

22. The medical device of claim 19 wherein the porous polymer is a synthetic porous polymer.

23. The medical device of claim 22 wherein the synthetic porous polymer is a biodegradable synthetic porous polymer selected from the group consisting of polyglycolic acid, polylactic acid, polydiaxonone, poly(,-caprolactone), polyanhydrides, poly(∃-hydroxybutyrate), poly(ortho esters), poly(amino acids), polyiminocarbonates, and mixtures thereof.

24. The medical device of claim 15 wherein the antimicrobial peptide is secreted.

25. A method for local delivery of a polynucleotide to a patient, the method comprising:

providing a medical device comprising:

a carrier having a surface comprising a polymer; and

a polynucleotide associated with at least a portion of the polymer, wherein the polynucleotide is not present in a cell; and

implanting the medical device into the body of a patient; wherein the polynucleotide is released from the medical device.

26. The method of claim 25 wherein the carrier is an implantable pulse generator.

27. The method of claim 25 wherein the polymer comprises a film.

28. The method of claim 25 wherein the polymer is a porous polymer.

29. The method of claim 28 wherein the porous polymer is a natural porous polymer.

30. The method of claim 29 wherein the natural porous polymer is selected from the group consisting of collagen, gelatin, elastin, fibrin, hyaluronic acid, and a glycosaminoglycan.

31. The method of claim 30 wherein the glyconsaminoglycan is selected from the group consisting of heparin, heparan sulfate, dermatan sulfate, chondroitin sulfate, and mixtures thereof.

32. The method of claim 28 wherein the porous polymer is a synthetic porous polymer.

33. The method of claim 32 wherein the synthetic porous polymer is a biodegradable synthetic porous polymer selected from the group consisting of polyglycolic acid, polylactic acid, polydiaxonone, poly(,-caprolactone), polyanhydrides, poly(Ɛ-hydroxybutyrate), poly(ortho esters), poly(amino acids), polyiminocarbonates, and mixtures thereof.

34. The method of claim 25 wherein the polynucleotide comprises a coding sequence encoding an antimicrobial peptide.

35. The method of claim 25 wherein the polynucleotide is condensed.

36. The method of claim 35 wherein the condensed polynucleotide is linked to a receptor ligand.

37. The method of claim 25 wherein the polynucleotide is enclosed in a liposome.

38. The method of claim 37 wherein the enclosed polynucleotide is linked to a receptor ligand.

39 A method for local delivery of a cell expressing an antimicrobial peptide to a patient, the method comprising:

providing a medical device comprising:

a carrier having a surface comprising a polymer; and

a cell associated with at least a portion of the polymer, wherein the cell expresses an antimicrobial peptide; and

implanting the medical device into the body of a patient; wherein the cell expresses the antimicrobial peptide.

40. The method of claim 39 wherein the carrier is an implantable pulse generator.

41. The method of claim 39 wherein the polymer comprises a film.

42. The method of claim 39 wherein the polymer is a porous polymer.

43. The method of claim 42 wherein the porous polymer is a natural porous polymer.

44. The method of claim 43 wherein the natural porous polymer is selected from the group consisting of collagen, gelatin, elastin, fibrin, hyaluronic acid, and a glycosaminoglycan.

45. The method of claim 44 wherein the glyconsaminoglycan is selected from the group consisting of heparin, heparan sulfate, dermatan sulfate, chondroitin sulfate, and mixtures thereof.

46. The method of claim 42 wherein the porous polymer is a synthetic porous polymer.

47. The method of claim 46 wherein the synthetic porous polymer is a biodegradable synthetic porous polymer selected from the group consisting

of polyglycolic acid, polylactic acid, polydiaxonone, poly(,-caprolactone), polyanhydrides, poly(∃-hydroxybutyrate), poly(ortho esters), poly(amino acids), polyiminocarbonates, and mixtures thereof.

48. The method of claim 39 wherein the antimicrobial peptide is secreted.

49. A method for making a medical device for local delivery of a polynucleotide, the method comprising:

providing a medical device comprising a carrier having a surface comprising a polymer;
providing a polynucleotide; and
contacting the polymer with the polynucleotide.

50. The method of claim 49 wherein the polynucleotide comprises a coding region encoding an antimicrobial peptide.

51. A kit comprising a medical device and a polynucleotide, the medical device comprising a polymer.

52. The method of claim 51 wherein the polynucleotide comprises a coding region encoding an antimicrobial peptide.

53. A method for making a medical device for local delivery of a cell expressing an antimicrobial peptide, the method comprising:

providing a medical device comprising a carrier having a surface comprising a polymer;
providing a cell that expresses an antimicrobial peptide; and
contacting the polymer with the cell.

54. A kit comprising a medical device and a cell that expresses an antimicrobial peptide, the medical device comprising a polymer.